IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended): ~~Method~~ A method for pre-processing speech, ~~in particular in a method for recognizing speech,~~ comprising the steps of:

[[-]] receiving a speech signal; [[(S),]]

[[-]] separating [[a]] an entire spectrum [[(F)]] of said speech signal [[(S)]] into a [[given]] number [[(N)]] of predetermined frequency sub-bands; ~~($F_1, ..., F_N$),~~

[[-]] analyzing said speech signal [[(S)]] within each of said frequency sub-bands; ~~($F_1, ..., F_N$),~~

[[-]] ~~thereby~~ generating respective band-dependent acoustic feature data ~~($O_1, ..., O_N$)~~ for each of said respective frequency sub-bands ~~($F_1, ..., F_N$)~~, [[which]] the band-dependent acoustic feature data ~~($O_1, ..., O_N$) are~~ being at least in part ~~representa-tive for~~ representative of said speech signal [[(S)]] with respect to a respective frequency sub-band; ~~($F_1, ..., F_N$),~~

[[-]] deriving band-dependent likelihoods ~~($b_1, ..., b_N$)~~ for occurrences of speech elements ~~($P_1, ..., P_m$)~~ or of sequences thereof within said speech signal [[(S)]] based on said band-dependent acoustic feature data; ~~($O_1, ..., O_N$) and/or a derivative thereof,~~

[[-]] analyzing said speech signal [[(S)]] within said entire spectrum; [[(F),]]

[[-]] ~~thereby~~ generating full-band acoustic feature data, ~~(FBE-F; FFBE; FBE-F-SSUB; $O_{F,SSUB}$), which are~~ the full-band acoustic feature data being at least in part representative [[for]] of said speech signal [[(S)]] with respect to said entire spectrum; [[(F),]]

[[-]] deriving a full-band likelihood ~~(B_{FF}; B_{SSUB})~~ for occurrences of speech elements ~~($P_1, ..., P_m$)~~ or of sequences thereof within said speech signal [[(S)]] based on said full-band acoustic feature data; and ~~(FBE-F; FFBE; FBE-F-SSUB; $O_{F,SSUB}$) and/or a derivative thereof,~~

[[-]] deriving an overall likelihood [[(B)]] for occurrences of speech elements ~~(P_1, ..., P_m)~~ or of sequences thereof within said speech signal [[(S)]] based on said band-dependent likelihoods ~~(b_1, ..., b_N)~~ and said full-band likelihood ~~(B_{FF}; B_{SSUB})~~.

2. (Currently Amended): The method according to claim 1, wherein ~~characterized in that when~~ deriving said overall likelihood [[(B)]] includes combining said band-dependent likelihoods ~~(b_1, ..., b_N) are combined~~ to a union model likelihood ~~($B_{U,MFCC}$)~~ by determining [[the]] a number of uncorrupted frequency sub-bands of said frequency sub-bands ~~(F_1, ..., F_N)~~, and adding all possible combinations of products of ~~different~~ the band-dependent likelihoods ~~(b_1, ..., b_N)~~ corresponding to the respective frequency sub-bands.

3. (Currently Amended): The method according to claim 1, ~~characterized in that~~ wherein the step of generating the band-dependent acoustic feature data comprises generating said band-dependent acoustic feature data ~~(O_1, ..., O_N) comprise~~ that include respective band-dependent mel-frequency cepstral coefficient features, which are based on mel-frequency cepstral coefficients ~~and/or a derivative thereof~~ derived from the respective frequency sub-bands ~~(F_1, ..., F_N)~~.

4. (Currently Amended): The method according to claim 1, ~~characterized in that~~ further comprising:

applying a predetermined broadband noise robustness technique ~~is applied~~ prior to deriving said full-band likelihood term ~~(B_{FF}; B_{SSUB})~~.

5. (Currently Amended): The method according to claim 4, ~~characterized in that~~ wherein the step of applying the predetermined broadband noise robustness technique

comprises applying said broadband noise robustness technique [[is]] based on a frequency-filtering technique.

6. (Currently Amended): The method according to claim 4, ~~characterized in that~~ wherein the step of applying the predetermined broadband noise robustness technique comprises applying said broadband noise robustness technique [[is]] based on a method of ~~spec-tral~~spectral-subtraction.

7. (Currently Amended): The method according to claim 1, ~~characterized in that~~ wherein the step of generating the full-band acoustic feature data comprises generating said full-band acoustic feature data ~~(FBE-F; FFBE; FBE-F-SSUB; $O_{F,SSUB}$) comprise~~ that include filter bank energy features ~~(FBE-F)~~, which are based on filter bank energies derived from said entire spectrum [[(F)]].

8. (Currently Amended): The method according to claim 1, ~~characterized in that~~ wherein the step of generating the full-band acoustic feature data comprises generating said full-band acoustic feature data ~~(FBE-F; FFBE; FBE-F-SSUB; $O_{F,SSUB}$) comprise~~ that include filtered filter bank energy features ~~(FFBE)~~, which are based on ~~fil-tered~~ filtered filter bank energies derived from said entire spectrum [[(F)]].

9. (Currently Amended): The method according to claim 1, ~~characterized in that~~ wherein the step of generating said full-band acoustic feature data comprises generating said full-band acoustic feature data ~~(FBE-F; FFBE; FBE-F-SSUB; $O_{F,SSUB}$) comprise~~ that include full-band mel-frequency cepstral coefficient features, which are based on mel-frequency

cepstral coefficients ~~and/or a derivative thereof de-rived~~ derived from said entire spectrum [[(F)]].

10. (Currently Amended): The method according to claim 1, ~~characterized in that~~ wherein the step of generating said full-band acoustic feature data and/or said band-dependent acoustic feature data comprises generating said full-band acoustic feature data ~~(FBE-F; FFBE; FBE-F-SSUB; $O_{F,SSUB}$)~~ and/or said band-dependent acoustic feature data ~~(O_1, ..., O_N) comprise~~ that include PLP-linear prediction filter features, which are based on PLP-linear prediction ~~fil-ter~~ filter coefficients.

11. (Currently Amended): The method according to claim 1, ~~characterized in that~~ wherein the step of generating the full-band acoustic feature data comprises generating said full-band acoustic feature data ~~(FBE; FFBE; FBE-F-SSUB; $O_{F,SSUB}$) comprise~~ that include spectrally-changed full-band mel-frequency cepstral coefficient features ~~fea-tures ($O_{F,SSUB}$)~~, which are generated by applying a method of spectral ~~sub-traction~~ subtraction to said full-band mel-frequency cepstral coefficient features [[(O_F)]].

12. (Currently Amended): The method according to claim 1, ~~characterized in that~~ further comprising:

determining, using a probability estimator, said band-dependent likelihoods ~~(b_1, ..., b_N)~~ and said full-band likelihood ~~term (B_{FF}; B_{SSUB}; $B_{U,FF}$) are determined using a probability estimator~~.

13. (Currently Amended): The method according to claim 1, ~~characterized in that~~ further comprising:

deriving said filtered filter bank energies ~~(FFBE) are derived~~ from said filter bank energies [[(FBE)]] by subtracting ~~(f(i) = f(i+1) – f(i-1))~~ a first filter bank energy [[(FBE_{i-1})]] from a second filter bank energy [[(FBE_{i+1})]], wherein said first filter bank energy [[(FBE_{i-1})]] corresponds to a first discrete frequency and said second filter bank energy [[(FBE_{i+1})]] corresponds to a second discrete frequency, lying two discrete frequency steps after said first filter bank energy [[(FBE_{i-1})]].

14. (Currently Amended): ~~Speech~~ A speech pre-processing system, ~~in particular integrated into a speech processing system, which is capable of performing or realizing a method for pre-processing speech according to claim 1 and/or the steps thereof~~ comprising.

means for receiving a speech signal;

means for separating an entire spectrum of said speech signal into a number of predetermined frequency sub-bands;

means for analyzing said speech signal within each of said frequency sub-bands;

means for generating respective band-dependent acoustic feature data for each of said respective frequency sub-bands, the band-dependent acoustic feature data being at least in part representative of said speech signal with respect to a respective frequency sub-band;

means for deriving band-dependent likelihoods for occurrences of speech elements or of sequences thereof within said speech signal based on said band-dependent acoustic feature data;

means for analyzing said speech signal within said entire spectrum;

means for generating full-band acoustic feature data, the full-band acoustic feature data being at least in part representative of said speech signal with respect to said entire spectrum;

means for deriving a full-band likelihood for occurrences of speech elements or of sequences thereof within said speech signal based on said full-band acoustic feature data; and

means for deriving an overall likelihood for occurrences of speech elements or of sequences thereof within said speech signal based on said band-dependent likelihoods and said full-band likelihood.

15. (Cancelled).

16. (Currently Amended): ~~Computer~~ A computer readable storage medium, having embedded therein computer executable instructions, wherein the instructions, when executed by a processor, cause the processor to perform a method comprising:

~~comprising a computer program product according to claim 15~~

receiving a speech signal;

separating an entire spectrum of said speech signal into a number of predetermined frequency sub-bands;

analyzing said speech signal within each of said frequency sub-bands;

generating respective band-dependent acoustic feature data for each of said respective frequency sub-bands, the band-dependent acoustic feature data being at least in part representative of said speech signal with respect to a respective frequency sub-band;

deriving band-dependent likelihoods for occurrences of speech elements or of sequences thereof within said speech signal based on said band-dependent acoustic feature data;

analyzing said speech signal within said entire spectrum;

generating full-band acoustic feature data, the full-band acoustic feature data being at least in part representative of said speech signal with respect to said entire spectrum;

deriving a full-band likelihood for occurrences of speech elements or of sequences thereof within said speech signal based on said full-band acoustic feature data; and

deriving an overall likelihood for occurrences of speech elements or of sequences thereof within said speech signal based on said band-dependent likelihoods and said full-band likelihood.